

SERIES 70 OVERSHOTS

Instruction Manual 1070



Series 70 Short Catch Overshots



One Company Unlimited Solutions

Series 70 Overshots

INDEX

Series 70 Short Catch Overshots

General Description	3
Use	3
Construction	3
Operation	3
To Engage and Pull the Fish	3
To Release from the Fish	3
Precautions	3
Explanation of Mechanism	4
Maintenance	4
Specifications and Replacement Parts	5 – 6
Table of Calculated Strengths	7

The designs and specifications for the tools described in this instruction manual were in effect at the time this manual was approved for printing. National Oilwell Varco, whose policy is one of continuous improvement, reserves the right to discontinue models at any time, or to change designs and specifications without notice or without incurring obligation.

Seventeenth Printing, September 2005

General Description

Bowen Series 70 Short Catch Overshots are especially designed to engage the exposed portion of a fish too short to be engaged with conventional catch overshots. Designed and developed upon the same principle as other Bowen Overshots, they are the most effective means for the recovery of a fish whose exposed upper end is very short.

Use

Each **Bowen Series 70 Short Catch Overshot** is designed to engage a specific maximum outside diameter. (See the Specifications tables on pages 5 and 6). Each Overshot can be dressed to engage any smaller diameter by installing the desired size of Basket Grapple.

Construction

A **Series 70 Short Catch Overshot** consists of a Top Sub, a Bowl, a Basket Grapple Control, and a Basket Grapple. In this Overshot, the Basket Grapple is inserted into the Bowl from the top and the finger of the Basket Grapple Control fits into the top of the Basket Grapple. The Bowl is designed to allow the Basket Grapple to be located at its extreme lower end.

Operation

First determine that the Overshot is properly assembled, dressed with the proper size Grapple, and that all of its parts are in good working order. Refer to the Specification Tables for the list of parts.

Make up the Overshot on the fishing string and run into the well.

To Engage and Pull the Fish

As the top of the fish is reached, slowly rotate the fishing string to the right and gradually lower the Overshot over the fish. Combined rotating and lowering is important.

Allow the right-hand torque to slack out of the fishing string and then pull on the fish by elevating the fishing string.

To Release from the Fish

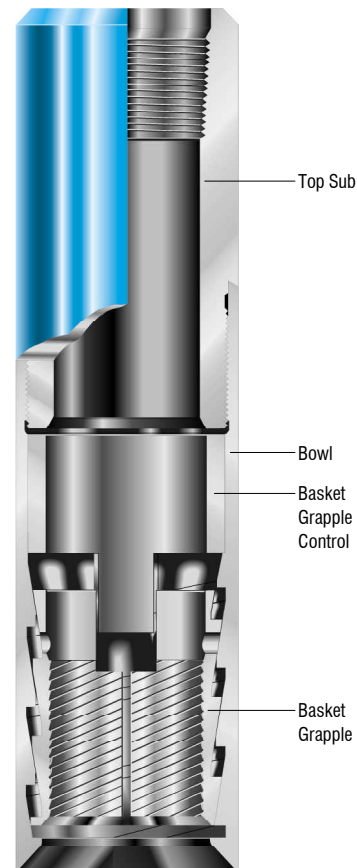
Bump down. Then simultaneously rotate to the right and slowly elevate the fishing string until the Overshot is clear of the fish. Combined rotating and elevating is important.

To release from a recovered fish, follow the same procedure while holding the fish below the Overshot.

Precautions

Unless an upward strain is maintained, never rotate the fishing string to the left while the Overshot is engaged with the fish.

Always bump down the full weight of the fishing string before starting releasing operations.



**Bowen Series 70
Short Catch Overshot**

Explanation of Mechanism

After the Overshot has reached the top of the fish, combined rotation and lowering results in the following:

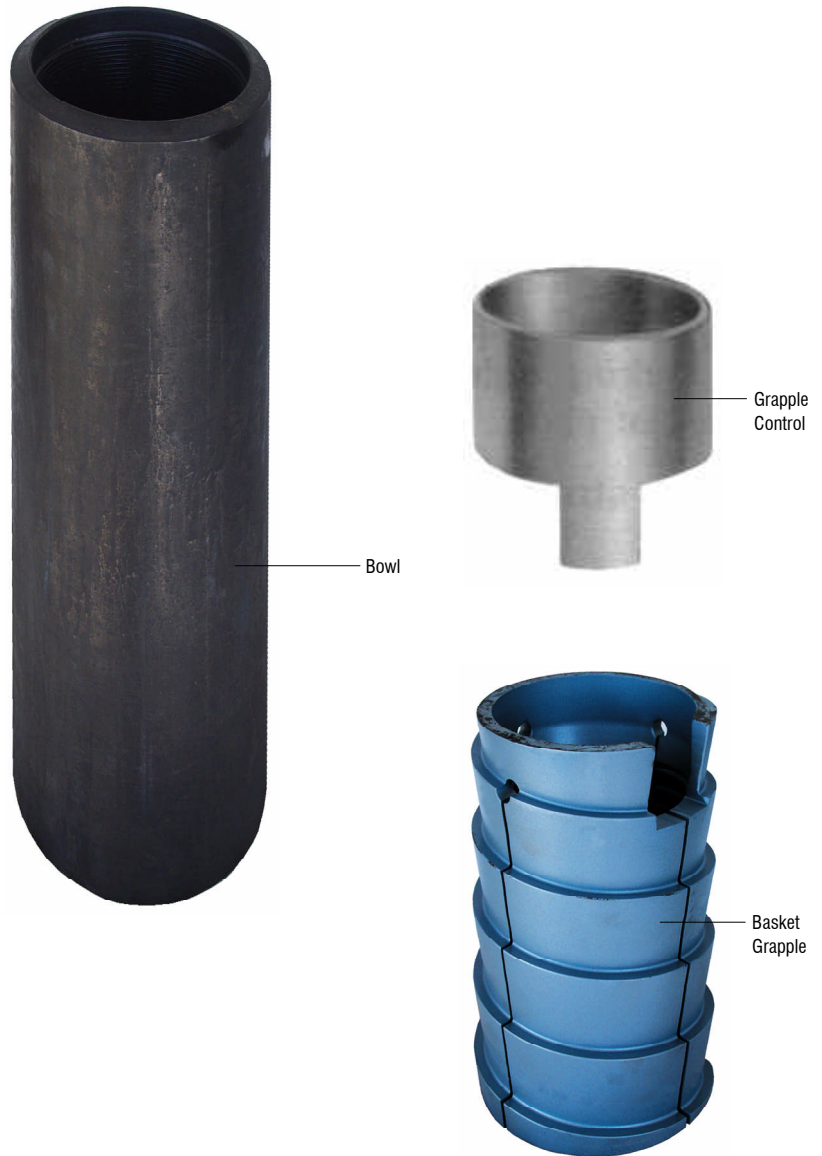
1. The bottom of the Bowl serves as a guide to direct the fish into the Basket Grapple.
2. The Grapple will expand and the fish will pass into it to be halted by the lower end of the top sub.
3. The fish is now properly located in the Overshot and thereafter, when upward pull is exerted, the Grapple is contracted by the tapers of the Bowl and the hold is secure.

When releasing, the sharp downward bump breaks the freeze between Bowl and Grapple, and places the largest portion of the Bowl tapers opposite the largest portion of the Grapple Spirals. Elevation of the Fishing String and right-hand rotation of the overshot causes the left hand wickers in the Grapple to feed the overshot (Grapple) off the fish.

Maintenance

To guard against misruns and to prolong the life of the tool, the Overshot should be disassembled after use, cleaned and all parts oiled or lubricated before reassembling. Grapple wickers should be checked for dullness, and replaced if necessary.

Reference to the illustrations will indicate that little instruction is needed to dismantle or assemble this tool. To prevent rust or deterioration, either paint or grease the exterior of the Overshot.



Series 70 Short Catch Overshot Specifications

Maximum Catch		1-5/8	2-1/2	2-5/8	3-1/16	3-1/16	3-1/8	3-3/8	3-21/32
Standard O.D.		2-5/16	3-5/8	3-3/4	3-15/16	4-1/8	4-5/8	4-1/8	4-11/16
Standard Connection		7/8	2-1/2	2-3/8	2-3/8	2-7/8	2-1/2	2-7/8	2-7/8
		SR	EUE	API	EUE	REG	EUE	REG	REG
		PIN		REG					
Type		SH	SH	SH	SH	SH	FS	SH	SH
Complete Assembly	Part No.	38506	17615	13535	63892	10434	11290	68550	C-11023
	Weight	8	30	36	39	59	57	59	87

Replacement Parts

Top Sub	Part No.	38507	17616	13536	63893	10435	11295	68551	A-11024
	Weight	4	14	15	16	20	23	20	35
Bowl	Part No.	38508	17617	13537	63894	10436	11291	68552	B-11025
	Weight	2	11	14	15	25	21	25	33
Basket Grapple	Part No.	38509	17618	13538	63895	10437	11292	68553	B-11026
	Weight	1-1/2	3	4-1/2	5-1/2	11	10	11	15
Basket Grapple Control	Part No.	38510	17619	13539	63896	10438	11294	68554	A-11027
	Weight	1/2	1	2-1/4	2-1/2	2-3/4	3	2-3/4	4

Series 70 Short Catch Overshot Specifications

Maximum Catch		3-21/32	3-3/4	3-3/4	4-1/8	4-1/4	4-3/4	4-3/4	5-1/4
Standard O.D.		5-5/8	4-3/4	5-1/2	5-1/4	5-25/32	5-7/8	6-5/8	6-1/4
Standard Connection		3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	4-1/2	4-1/2
		FH	FH	FH	IF	FH	IF	FH	REG
Type		FS	SH	FS	FS	FS	SH	FS	SH
Complete Assembly	Part No.	11297	12645	12785	53186	13065	10560	11303	14805
	Weight	87	59	123	87	116	129	153	158

Replacement Parts

Top Sub	Part No.	11298	10544	12786	53187	13066	10561	11304	14806
	Weight	35	35	58	35	65	55	80	89
Bowl	Part No.	11299	12646	12787	53188	13067	10562	11305	14807
	Weight	33	13	41	33	24	49	39	32
Basket Grapple	Part No.	11300	12647	12788	53189	13068	10563	11306	14808
	Weight	15	6	19	15	16	21	19	32
Basket Grapple Control	Part No.	11301	12648	12789	53190	13069	10564	11307	14809
	Weight	4	4-1/2	5-1/4	4	5	3-3/4	5	5

How to Order

Specify:

- (1) Name and number of assembly or part
- (2) Top connection desired
- (3) Size of fish to be caught
- (4) OD, if other than standard

RECOMMENDED SPARE PARTS:

- (1) 2 Basket Grapples for each catch size
- (2) 1 Basket Grapple Control

SPECIAL NOTES:

FS (Full Strength) Engineered to withstand all pulling, torsional, and jarring strain.
SH (Slim Hole) Engineered to withstand heavy pulling strain only.

Series 70 Short Catch Overshot Specifications

Maximum Catch		6-1/4	6-3/8	6-1/2	7	7	7-3/4	8	8-1/4	9
Standard OD		7-7/8	8	8-1/4	8-3/8	8-1/2	9-1/4	9-3/4	10	11-1/4
Standard Connection		4-1/2	8-5/8	5-1/2	8-5/8	4-1/2	4-1/2	6-5/8	8-5/8	7-5/8
		IF	REG	REG	REG	FH	IF	REG	REG	REG
Type		FS	FS	FS	SH	FS	FS	FS	FS	FS
Complete Assembly	Part No.	16975	46673	38939	151454	20050	25030	20060	46102	33878
	Weight	230	229	245	236	243	288	356	378	429

Replacement Parts

Top Sub	Part No.	16976	46674	38940	20051	20051	25031	20061	46679	38879
	Weight	140	145	145	148	150	200	210	224	225
Bowl	Part No.	16977	46675	38941	20052	20052	25032	20062	46680	33880
	Weight	45	38	46	39	28	45	48	62	110
Basket Grapple	Part No.	16978	46676	38942	151455	20053	25033	20063	46681	33881
	Weight	36	38	45	39	55	32	80	78	78
Basket Grapple Control	Part No.	16979	46677	38943	151456	20054	25034	20064	46682	33882
	Weight	7-1/2	8	8	10	8-1/2	9	16	12	13

How to Order

Specify:

- (1) Name and number of assembly or part
- (2) Top connection desired
- (3) Size of fish to be caught
- (4) OD, if other than standard

RECOMMENDED SPARE PARTS:

- (1) 2 Basket Grapples for each catch size
- (2) 1 Basket Grapple Control

SPECIAL NOTES:

FS (Full Strength) Engineered to withstand all pulling, torsional, and jarring strain.
SH (Slim Hole) Engineered to withstand heavy pulling strain only.

Series 70 Short Catch Overshot – Table of Calculated Strengths

Complete Assembly No.	Bowl Number	O.D. (in)	Max. Catch Size (in)	Load Capacity at Yield Point Basket Grapple (lb)		Maximum Recommended Makeup Torque (ft lb)
				Without Stop	With Stop	
10434	10436	4-11/16	3-1/16	697,300	571,300	5,250
10434*	10436	4-1/8	3-1/16	212,700	212,700	2,700
10543	10545	5-7/8	3-21/32	1,283,600	1,011,300	7,400
10543*	10545	4-11/16	3-21/32	197,600	197,600	2,900
10560	10562	6-5/8	4-3/4	915,200	693,600	18,600
10560*	10562	5-7/8	4-3/4	348,200	306,200	6,750
C-11023	B-11025	4-3/8	3-3/8	250,300	—	3,400
11290	11291	4-5/8	3-1/16	398,100	398,100	5,650
11297	11299	5-5/8	3-21/32	790,500	635,700	13,700
11303	11305	6-5/8	4-3/4	720,600	579,400	19,800
11630	11632	7-5/8	6	445,300	358,000	14,200
12645	12646	4-3/4	3-3/4	267,100	267,100	3,950
12785	12785	5-7/8	3-3/4	907,000	729,300	15,700
12785*	12787	5-1/2	3-3/4	558,100	504,500	9,900
13065	13067	5-25/32	4-1/4	575,600	467,400	7,300
13535	13537	3-3/4	2-5/8	239,800	239,800	2,700
14805	14807	6-1/4	5-1/4	319,700	—	6,500
16975	16977	7-7/8	6-1/4	445,700	349,200	13,200
17615	17617	3-5/8	2-1/2	263,600	—	2,900
20050	20052	8-1/2	7	373,700	285,100	12,400
20060	20062	9-3/4	8	445,100	—	22,200
25030	25032	9-1/4	7-3/4	391,700	—	16,800
33878	33880	11-1/4	9	874,800	—	46,800
36239	36241	15	12-1/4	934,800	—	120,000
38506	38508	2-5/16	1-5/8	85,200	—	600
38939	38941	8-1/2	6-1/2	445,100	—	17,100
46102	46680	10	8-1/4	445,100	—	18,000
46673	46675	8	6-3/8	445,700	—	14,700
53186	53188	5-1/4	4-1/8	339,500	339,500	5,750
63892	63894	3-15/16	3-1/16	224,600	—	2,750
68550	68552	4-1/8	3-1/8	254,700	—	1,900
151454	20052	8-3/8	7	226,400	—	6,150

* Standard OD

NOTE:

- 1) All strengths listed are calculated theoretical yield points and accurate within 20%. It should be noted, however, that all strengths assume a straight, steady pull and full grapple engagement of a roundfish. Anything less than full engagement or straight pulling will reduce the listed strength substantially. Tong marks and other surface damage to the bowl will also reduce the strength. Jarring may amplify the pull load by a factor of 3 to 10.
- 2) Maximum Recommended Makeup Torque is at 50% of yield. No tong marks should be applied to the Bowl. This is the maximum torque. Much less torque may be used depending upon the situation.

Corporate Headquarters

10000 Richmond Avenue
Houston, Texas 77042
United States
Phone: 713 346 7500
Fax: 713 346 7959

Alaska

4111 Ingra
Anchorage, Alaska 99503
United States
Phone: 907 563 5253
Fax: 907 561 0071

California

4117 Atlas Court
Bakersfield, California 99308
United States
Phone: 661 395 0165
Fax: 661 328 1827

Louisiana

108 Nova Drive
Broussard, Louisiana 70518
United States
Phone: 337 839 2400
Fax: 337 839 2211

190 Thompson Road
Houma, Louisiana 70363
United States
Phone: 985 851 1111
Fax: 985 851 1117

Mississippi

2930 Industrial Blvd.
Laurel, Mississippi 39440
United States
Phone: 601 649 8671
Fax: 601 649 8673

New Mexico

#14 CR 5860
Farmington, New Mexico 87401
United States
Phone: 505 326 4303
Fax: 505 326 4304

North Dakota

3202 1st Avenue West
Williston, North Dakota 58801
United States
Phone: 701 774 0091
Fax: 701 774 0092

Oklahoma

3800 Thomas Road
Oklahoma City, Oklahoma 73179
United States
Phone: 405 677 2484
Toll Free: 877 760 1711
Fax: 405 677 2457

Texas

1249 Commerce Road
Alice, Texas 78332
United States
Phone: 361 664 8013
Fax: 361 664 0462

8411 Irvington Boulevard*
Houston, Texas 77022
United States
Phone: 713 691 7800
Fax: 713 691 7807

2810 Highway 135 North
Kilgore, Texas 75662
United States
Phone: 903 984 2553
Fax: 903 984 7170

10720 West I-20 East
Odessa, Texas 79765
United States
Phone: 432 563 1173
Fax: 432 563 1182

30444 Southwest Freeway
Rosenberg, Texas 77471
United States
Phone: 281 341 5365
Fax: 281 344 1986

Utah

1553 East Highway 40
Vernal, Utah 84078
United States
Phone: 435 789 0670
Fax: 435 789 6568

West Virginia

Route 2, Murphy Run Road
Clarksburg, West Virginia 26301
United States
Phone: 304 622 4303
Fax: 304 623 2174

Wyoming

1283 N. Derrick Drive
Unit 1, Box 2
Casper, Wyoming 82604
United States
Phone: 307 237 3100
Fax: 307 237 2546

Canada

9120 - 34A Avenue
Edmonton, Alberta T6E 5P4
Canada
Phone: 780 702 5209
Fax: 780 463 2348

3550 93 Street*
Edmonton, Alberta T6E 5N3
Canada
Phone: 780 944 3929
Fax: 780 430 0760

1100 540 5th Avenue SW (Mailing)
1010 540 5th Avenue SW (Office)
Calgary, Alberta T2P 0M2
Canada
Phone: 403 250 8000
Fax: 403 294 5790

England

2 Isbourne Way
Winchcombe
Cheltenham
Glos, GL54 5NS
England
Phone: 44 (0) 1242 603975
Fax: 44(0) 1242 602614

Dubai

Nr. R/A 13, Daimler Chrysler Street
P.O. Box 61490
Jebel Ali Free Zone
Dubai
UAE
Phone: 971 4 8838776
Fax: 971 4 8838795

Indonesia

Cilandak Commercial Estate Unit 105
Jl. Raya Cilandak KKO
P.O. Box 7541
Jakarta, 12560
Indonesia
Phone: 62 21 782 6088
Fax: 62 21 782 6086

Scotland

10 Kirkton Avenue
Pitmedden Road Industrial Estate
Dyce, Aberdeen AB21 0BF
Scotland
Phone: 441 224 334800
Fax: 441 224 723034

Singapore

9 Tuas Avenue 5
Singapore, 639335
Singapore
Phone: 65 68611566
Fax: 65 68610728

Germany

Edesser Straße 1
31234 Edemissen Berkhöpen
Postfach 31232
Germany
Phone: 49 5176 97670
Fax: 49 5176 9767 22

* Denotes Manufacturing and Engineering facilities

Downhole Solutions

Drilling Solutions

Engineering and Project Management Solutions

Lifting and Handling Solutions

Production Solutions

Supply Chain Solutions

Tubular and Corrosion Control Solutions

Well Service and Completion Solutions